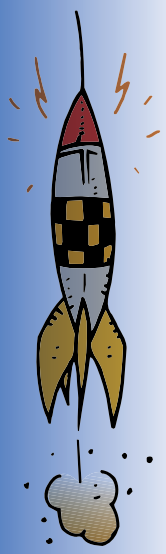
Volume 4
Issue 3

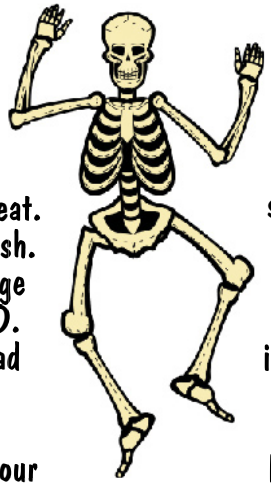


Space Nutrition

Solar-Powered Vitamin

When is a vitamin not a vitamin?

Vitamin D is unique in that it can be considered a vitamin or a hormone. A hormone is a chemical made in one part of your body, which acts on another part. Vitamin D can be synthesized (made) in your skin when you are exposed to sunlight.

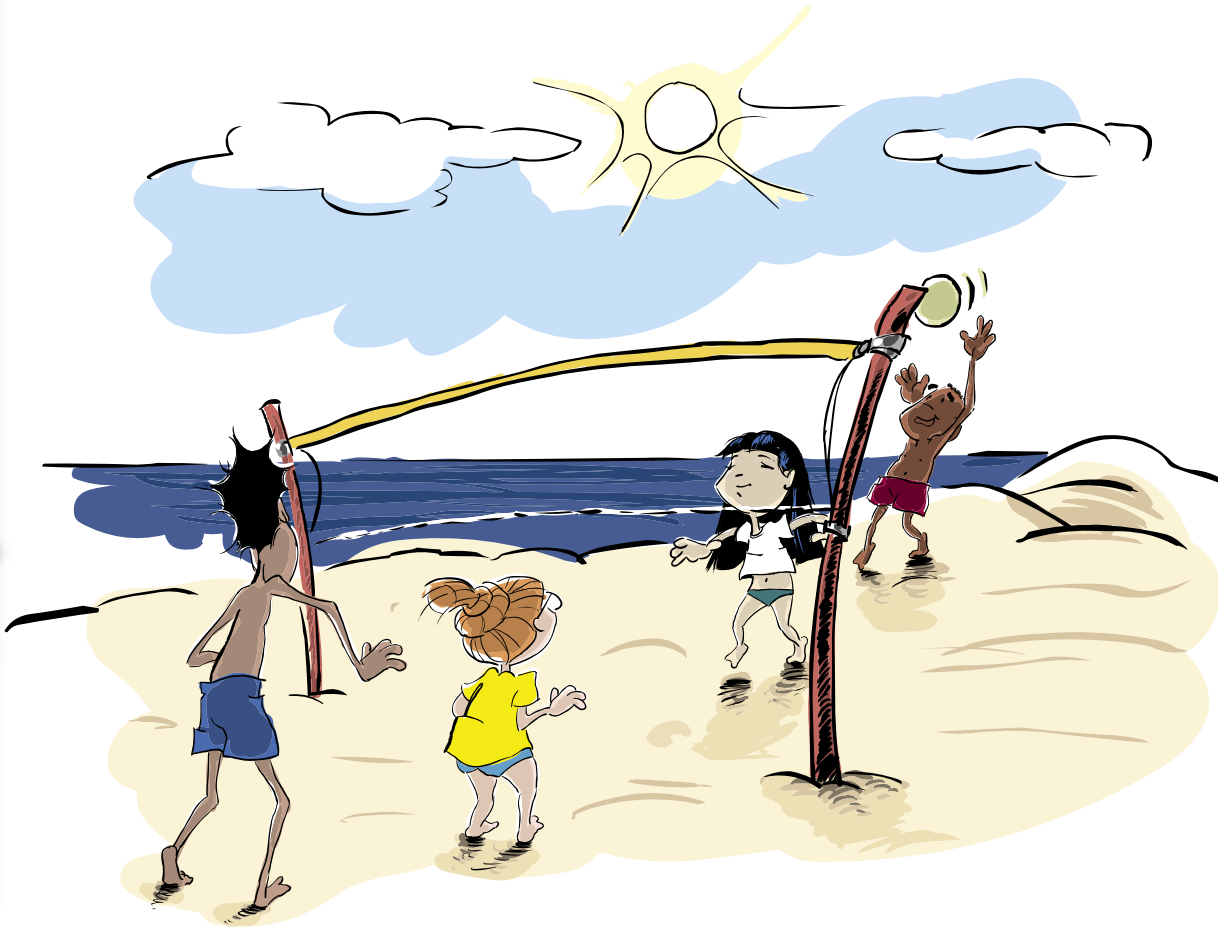


If you don't get enough sun exposure, you need to get vitamin D from the foods you eat. Vitamin D is found naturally in fish. Milk and cereals (and some orange juice) are fortified with vitamin D. A fortified food is one that has had nutrients added to it.

Vitamin D is very important for your bones - in part because vitamin D helps your body use the calcium in your diet. If you don't get enough vitamin D (also called being "deficient"), your body won't be able to use calcium from food, and your bones will become weak.

Too much sun can cause health problems (like sun burn, or even skin cancer). The Shuttle and International Space Station are shielded to prevent the crewmembers from being exposed to the sun's rays - but this means it's very important for crew members to consume vitamin D during space flight.

Since vitamin D is synthesized in your skin after exposure to sunlight, you can imagine that getting enough vitamin D from the sun would also depend on the time of year and where you live. Do you think living in Texas or in Alaska would be better for skin production of vitamin D? Skin color can also have an effect - the darker your skin, the longer you need to be exposed to the sun to meet your daily requirement.



Thea's Corner...

1. Are you getting enough vitamin D? Think about the types of foods you eat. Also - check out food labels to see if the foods you eat have been fortified with vitamin D. Keep track of this for a week and see if you can get an "A" on the "D" test. You should be getting 5 micrograms per day (see Thea's bonus page on our website for help calculating your daily vitamin D intake).

2. On a separate sheet of paper, write a story about the Nutrition crew going on a mission to another planet. What could you do to be sure they get enough vitamin D? Send us your stories and they may appear on our website!

3. Calling all poets and song writers! Can you write a song or poem about what you know about vitamin D? Check out our website for a great example!

Did you know?

- Vitamin D is like many nutrients - while it is important to be sure to get enough of it, getting too much can also be bad for you. This usually only happens if you take too many vitamins. Luckily, the body won't get too much vitamin D just from sun exposure.
- The sun is important for vitamin D - and it is also important to scientists at NASA. The Genesis mission recently returned from a 3-year journey to collect dust that came from the sun. Although the spacecraft had a rough landing, scientists are very excited about studying the samples of solar dust that were collected.
- Exposure to sunlight for short periods (15 minutes) at least 2 to 3 times per week will provide the vitamin D requirement for children and young adults.
- The sun is 5 billion years old and is 149,597,890 km from the Earth. There are 1.6 km in a mile. How many miles away is the sun?

Word of the Month

coagulate

Can you guess what this word means? Look it up in the dictionary and see if you were right. We'll have more on this next month!

Web Challenge: What does NASA have to do with school buses? Find out at one of the links below....

http://edspace.nasa.gov/index.html
http://www.nasa.gov/audience/forstudents/5-8/features/index.html
http://www.nasa.gov/mission_pages/genesis/main/index.html
http://www.jpl.nasa.gov/solar_system/sun/sun_index.html

Check out Thea's Bonus Page, experiments you can try, and even stuff you may have done at our website:

http://haco.jsc.nasa.gov/biomedical/nutrition/